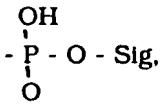
Amend The Claims As Follows:

141 (Amended) A nucleotide having the [general] formula,

Sig - P - S - B

wherein P is [the] a phosphoric acid moiety, S is a [the] sugar moiety and B is a pyrimidine, purine or 7-deazapurine [the base] moiety, [the phosphoric acid moiety] P being attached to the 3' or the 5' position of the sugar moiety when said nucleotide is a deoxyribonucleotide and at the 2', 3' or 5' position when said nucleotide is a ribonucleotide, [said base] B [being a purine or pyrimidine, said base B] being attached to the 1' position of S from the N1 position when B is a pyrimidine or the N9 position [to the 1' position of the sugar moiety] when [said base] B is a [pyrimidine or a] purine or 7-deazapurine, [respectively,] and [wherein] Sig is [a chemical moiety] covalently attached to [the phosphoric acid moiety] P directly or via the chemical linkage



said Sig, when attached to [said phosphoric acid moiety] P does not interfere substantially with the characteristic ability of Sig to form a detectable signal and represents a moiety which is detectable when said nucleotide is incorporated into a double-stranded nucleic acid duplex [being capable of signalling itself or making itself self-detecting or its presence known].

Add The Following New Claims:

204. An oligo- or polydeoxyribonucleotide comprising at least one nucleotide in accordance with Claim 1.

205. An oligo- or polyribonucleotide comprising at least one nucleotide in accordance with Claim 1.

206. A nucleotide in accordance with Claim 1 wherein Sig is a moiety containing at least 3 carbon atoms.

207. The nucleotide of Claim 1 wherein Sig is selected from the group consisting of mono-, oligo- and polysaccharides.

208. The nucleotide of Claim 207 wherein Sig is selected from the group consisting of triose, tetrose, pentose, hexose, heptose and octose.

209. The nucleotide of Claim 1 wherein Sig includes a glycosidic linkage moiety.

210. The nucleotide of Claim 1 wherein Sig is a sugar residue and such sugar residue is complexed with a binding protein for such sugar residue.

211. The nucleotide of Claim 210 wherein such binding protein is a lectin.

212. The nucleotide of Claim 211 wherein such lectin is Concanavalin A.

213. The nucleotide of Claim 1 wherein Sig comprises a component selected from the group consisting of biotin, iminobiotin, an electron dense component, a magnetic component, an enzyme, a hormone component, a radioactive component, a metal-containing component, a fluorescent component, an antigen, a hapten and an antibody component.

214. The nucleotide of Claim 213 wherein such electron dense component is ferritin.

215. The nucleotide of Claim 211 wherein such lectin is conjugated to ferritin.

216. The nucleotide of Claim 212 wherein said Concanavalin A is conjugated to ferritin.

217. The nucleotide of Claim 213 wherein Sig comprises a radioactive isotope.

218. The nucleotide of Claim 217 wherein such radioactive isotope is radioactive cobalt.

219. The nucleotide of Claim 213 wherein Sig comprises an enzyme.

220. The nucleotide of Claim 219 wherein such enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, B-galactosidase, ribonuclease, glucose oxidase and peroxidase.

221. The nucleotide of Claim 213 wherein Sig comprises a fluorescent component.

222. The nucleotide of Claim 221 wherein such fluorescent component is selected from the group consisting of fluorescein, rhodamine and dansyl.

223. The nucleotide of Claim 213 wherein Sig comprises a magnetic component.

224. The nucleotide of Claim 223 wherein such magnetic component comprises a magnetic oxide.

225. The nucleotide of Claim 224 wherein such magnetic oxide is ferric oxide.

226. The nucleotide of Claim 213 wherein Sig includes a hapten component capable of complexing with an antibody specific thereto.

227. The nucleotide of Claim 1 wherein Sig includes a catalytic metal-containing component.

228. An oligo- or polynucleotide comprising at least one nucleotide of Claim 1 and wherein the oligo- or polynucleotide is terminally ligated or attached to a polypeptide.

229. A composition comprising an oligo-or polynucleotide including at least one nucleotide of Claim 1, a polypeptide capable of forming a complex with Sig and a moiety which can be detected when such complex is formed.

230. The composition of Claim 229 wherein such polypeptide comprises a polylysine.

231. The composition of Claim 229 wherein such polypeptide is selected from the group consisting of at least one of avidin, streptavidin and anti-Sig immunoglobulin.

232. The composition of Claim 229 wherein Sig is a ligand and such polypeptide is an antibody thereto.

233. The composition of Claim 229 wherein said detectable moiety is selected from the group consisting of biotin, iminobiotin, an electron dense component, a magnetic component, an enzyme, a hormone component, a radioactive component, a metal-containing component, a fluorescent component, an antigen, a hapten and an antibody component.